May 25, 2007

Anderson & Associates, Inc.
100 Ardmore St.
Blacksburg, VA 24060

Attention: Trevor Kimzey, PE

RE: SP 07-018 Traffic Impact Study, First & Main , Blacksburg
SP 07-020 Transportation Improvements, First & Main, Blacksburg

Dear Mr. Kimzey;

A review of the referenced submissions has been completed. The Traffic Impact Study, and the Transportation Improvements plan **are not approved**. We do appreciate the comprehensiveness of your submission and your willingness to provide this information in both paper and digital formats.

Please be advised that this review has been based upon the Site Description included within the traffic impact study. Specifically, that site description states that "This study is based upon the proposed site plan provided by CMH Architects, dated March 20, 2007, as shown in Figure 2." As you are aware, site development plans, First & Main Phase I and First & Main Phase 2, have also been submitted for review to develop the site in accordance with the Figure 2 overview. That review has not been completed. Any changes in those plans, that change the overall development content, configuration, or other factor that affects traffic impact may result in additional comments or different comments in a resubmitted traffic impact study or transportation improvements plan.

The following comments are provided for your use in preparing a revised submission of the Traffic Impact Study and Transportation Improvements plan.

Engineering Comments
Jim Henegar, P.E., Town Engineer
Traffic Impact Study

1. Please provide a cover letter with signature of the design professional under whose seal the traffic study was prepared.
2. Traffic signal optimization is recommended for traffic signals at the Country Club Drive/South Main Street intersection, the Kroger Entrance/South Main Street intersection, and the Hubbard Street/Ellett Road/South Main Street intersection. Is signal optimization necessary or not to obtain Levels of Service (LOS) C or

better as indicated in the Table on Page 9? If so, provide optimized signal timings for these existing traffic signals.

3. Provide a copy of the Synchro simulation or allow town staff to view the simulation for an overall look at traffic movements.
4. Compare the annual traffic growth rate used in the study, 1.75%, to a pre-460 Bypass annual traffic growth rate. The study uses Annual Average Weekday Traffic (AAWDT) volumes from 2001 through 2004. Growth during this period may have been influenced and slowed by the newly open 460 Bypass. Is the pre-2001 annual traffic growth rate similar? If the growth rates are different, would the influence of the 460 Bypass diminish with time and the annual traffic growth rate return to the pre-460 Bypass value? Weigh the long-term impact of 460 Bypass construction on the annual traffic growth rate and justify the chosen growth rate in light of this impact.
5. Provide the basis for assuming 5% of the site generated traffic will access the development from the west via Country Club Drive. Almost half of the daily trips generated by the site (8660 trips versus 18973 total trips) are a result of the Free-Standing Discount Superstore (ITE 813) use located adjacent to Country Club Drive. Is this use likely to draw more traffic from the west (Virginia Tech and the Hethwood area) via Country Club Drive than what is allocated?

South Main Street Improvements

1. Revise matchline notes to correspond with correct areas. Referenced Areas S and Area T are not indicated in the key map and do not appear to be part of the project.
2. Label street names on Sheets C1.01, C1.02, and C1.03.
3. Resolve the discrepancy in northbound left turn lane dimensions for the South Main Street/Ardmore Street intersection. Plan Sheets C1.02 and C2.02 show a taper length and storage length of 50 feet and 125 feet respectively. Figure 6 Existing Lane Configurations and Figure 23 Proposed Lane Configurations of the *Traffic Impact Study* show a taper length of 62 feet and a storage length of 134 feet. Do existing lane dimensions actually match proposed lane dimensions especially when plans show relocation of the median nose and a subsequent reduction of the storage length by 15 feet? The recommended action on Page 13 of the *Traffic Impact Study* is extension of the northbound left-turn lane. Provide calculations justifying recommended taper and storage lengths.
4. Revise pavement restoration limits for the left turn lane median relocation on Plan Sheet C2.02.
5. Show right turn lane dimensions on Sheets C1.01 and C1.03.
6. Show eastside South Main Street right-of-way lines on all plan sheets.
7. Confirm the South Main Street Entrance (right turn in/right turn out) can accommodate turning trucks and emergency services vehicles.
8. Add a note indicating pavement markings are to be thermoplastic or 3M high performance tape.
9. Provide a signage plan and sign schedule.

10. Verify whether new entrances and signals will affect existing Blacksburg Transit stops and confirm coordination with Blacksburg Transit personnel to mitigate any impacts.
11. Provide curb inlet capacity calculations for drainage structures 1, 2, and 3 in accordance with *VDOT Drainage Manual* methodology.
12. Provide spare conduit between junction boxes and signal pole bases.
13. Confirm access to pedestrian signal pushbuttons on the southwest corner of the Ardmore Street/South Main Street intersection meets ADA guidelines. Are pedestrian signal pushbuttons close enough to the ADA ramp to access the ramp and cross the street in the allotted crossing time?
14. Relocate the Ardmore Street/South Main Street intersection traffic signal control cabinet from the proposed location on the southeast corner to a more protected location on the southwest corner south of the signal pole. Town preference and good practice is to locate the control cabinet on the downstream side of major traffic flow in a protected position shielded by a traffic signal pole.
15. Substitute spread spectrum radio equipment for the traffic signalization modem listed in the signal quantity summary on Sheet C3.03. The new signals will ultimately be interconnected for traffic coordination with signals at Country Club Drive/South Main Street, the Kroger entrance/South Main Street, and Hubbard Street/Ellett Road/South Main Street. A single phone modem connection will be required for the master controller which will either be located at the Country Club Drive intersection or the Hubbard Street intersection. Communication between the interim signals will be via radio.
16. Specify the following proprietary traffic signal equipment:
    a. Video Detection Equipment – Autoscope Solo Pro
    b. Emergency Preemption Detection – 3M Opticom Model 721 Detector
    c. Emergency Preemption Priority Control System – 3M Opticom Card Rack Model 760
    d. Spread Spectrum Radio – Microwave Data Systems (MDS) 9810 900 MHZ
    e. Uninterruptible Power Supply (UPS) – Clary SP1250 SN PLUS
    f. Traffic Controller – Eagle Traffic Control Systems EPAC M50
    g. Traffic Control Cabinet – Eagle Traffic Control Systems Size R Cabinet
    h. Conflict Monitor – Eberle Design Inc. SSM-12LE
    i. Audible Pedestrian Signal – Novax Industries Corp DS3000 Series

    Blacksburg uses this standard equipment for all new traffic signals and traffic signal retrofits to streamline equipment replacement troubleshooting, replacement and restock.
17. Specify Valmont decorative fluted traffic signal poles and mast arms with an 8-Sharp fluted cross-section, bent mast arm, and decorative clamshell bases. Note contractor shall verify pole and arm style with the Town Engineer. As used with the Airport Road/South Main Street traffic signal, fluted traffic signal poles and mast arms are the adopted town standard for the downtown area.
18. Specify Pelco pedestrian signal poles. Note contractor shall verify pole style with the Town Engineer.

19. Specify all signal & pedestrian poles, mast arms, and signal heads shall be painted using flat black powder paint, Federal ID #37038.
20. Specify PA-2 or PA-3 type pedestrian pushbutton.
21. Note signal heads shall have full tunnel visors with solid metal backplates.
22. Note streetlights will be relocated by the electric utility having jurisdiction at the developer's expense. Application for pole permits and coordination of streetlight relocation is the developer's responsibility. Contact Randy Croy, Virginia Tech Electric Construction Superintendent, at 540-231-0238.
23. Add the following standard notes:
    a. As-builts will be furnished before the public improvements bond is returned.
    b. Town to provide public signs at the developer's expense.
    c. A traffic control plan must be submitted to the Town of Blacksburg and approved prior to beginning construction.
24. Provide a construction schedule and have the developer pay applicable erosion & sediment control and public infrastructure inspection fees of $210/week. Inspection fees must be received before the Town will release the approved site plan.
25. Provide an engineer's estimate for public infrastructure improvements and have the developer provide a public improvements security in the estimated amount. A public improvements security must be received before the town will release the approved site plan.

Please contact us at 961-1126 if you would like to schedule a post review meeting to discuss these items.

Sincerely,

James E. Henegar, Jr., P.E.
Town Engineer

Steve M. Hundley, AICP
Zoning Administrator

cc: James Schiely, Fairmount University Realty Trust